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EXAMINER	
GOON, SCARLETT Y	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,335	AGVALD ET AL.	
	Examiner	Art Unit	
	SCARLETT GOON	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-75* is/are pending in the application.

4a) Of the above claim(s) *42-51,53,54,57-64,67,69,71 and 73* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41,52,55,56,65,66,68,70,72 and 74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to Applicants' Amendment and Remarks filed on 13 November 2009 in which claims 1-40 were cancelled, claims 41, 42, 52 and 61 are amended to change the scope and breadth of the claims, and claims 50 and 65 are amended to correct for typographical errors.

Claims 41-75 are pending in the instant application.

Claims 42-51, 53, 54, 57-60, 61-64, 67, 69, 71 and 73 were previously withdrawn from further consideration in the Office Action dated 29 June 2009 pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and/or nonelected species, there being no allowable generic or linking claim.

Claims 41, 52, 55, 56, 65, 66, 68, 70, 72 and 74 will be examined on its merits herein.

Priority

This application is a National Stage entry of PCT/SE2005/001336 filed on 14 September 2005 and claims priority to Sweden foreign application 0402221-6 filed on 14 September 2004. A certified copy of the foreign priority document in English has been received.

Rejections Withdrawn

Applicants' amendment and arguments, filed 13 November 2009, with respect to the rejection of claims 41, 52, 55, 56, 65, 66, 68, 70, 72 and 74 under 35 USC § 112,

second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, have been fully considered and are persuasive because the claims have been amended to specifically recite that nitric oxide is bonded to a water miscible organic compound. This rejection has been **withdrawn**.

Applicants' arguments, filed 13 November 2009, with respect to the rejection of claims 70, 72 and 74 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, have been fully considered and are persuasive because Applicants clarified in their arguments that "substantially no oxygen" is intended to accommodate for "the minor variations that may be appropriate to secure the invention" as described by the Federal Circuit in *Verve vs. Crane Cams*, 311 F.3d 1116, 1120 (Fed. Cir. 2002). This rejection has been **withdrawn**.

Applicants' amendment and arguments, filed 13 November 2009, with respect to the rejection of claims 41, 52, 65, 66, 68, 70, 72 and 74 under 35 USC § 112, first paragraph, for lack of sufficient written description, have been fully considered and are persuasive because the claims have been amended to specifically recite that nitric oxide is bonded to a water miscible organic compound, and these compounds are sufficiently disclosed in the instant Specification. This rejection has been **withdrawn**.

Applicants' amendment and arguments, filed 13 November 2009, with respect to the rejection of claims 41, 52, 55, 56, 65, 66, 68, 70, 72 and 74 under 35 USC § 102(b), as being anticipated by Mailhes *et al.*, have been fully considered and are persuasive

because the claims have been amended to specifically recite that nitric oxide is bonded to a water miscible organic compound. This limitation is not disclosed by Mailhes *et al.* This rejection has been **withdrawn**.

Claim Objections

Claim 74 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 70 limits claim 66 by requiring that the composition contains substantially no oxygen. Claim 74, which is dependent from claim 70, recites the same limitation as claim 70. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The following are new ground(s) or modified rejections necessitated by Applicants' amendment, filed on 13 November 2009, wherein the limitations in pending claims 41 and 52 as amended now have been changed; claims 65, 66, 70 and 74 depend from claim 41, and claims 54-56, 68 and 72 depend from claim 52. The limitations in the amended claims have been changed and the breadth and scope of those claims have been changed. Therefore, rejections from the previous Office Action, dated 29 June 2009, have been modified and are listed below.

Claim Rejections - 35 USC § 112, First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Enablement

Claims 41, 52, 65, 66, 68, 70, 72 and 74 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a composition for the delivery of gaseous nitric oxide (NO), comprising specific compounds bonded to NO, wherein said compound is a water miscible organic compound, comprising at least one hydroxyl group, does not reasonably provide enablement for a similar composition comprising <u>any</u> compounds bonded to NO, wherein said compound is a water miscible organic compound, comprising at least one hydroxyl group. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors: (1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

All of the *Wands* factors have been considered with regard to the instant claims, with the most relevant factors discussed below.

Nature of the invention: The rejected invention is drawn to a composition for the delivery of gaseous nitric oxide, comprising a compound bonded to NO, wherein said compound is a water miscible organic compound, comprising at least one hydroxyl group.

Relative skill of those in the art: The relative skill of those in the art is high.

Breadth of claims: The claims are extremely broad in that they encompass any water miscible organic compound comprising at least one hydroxyl group that is bonded to NO.

Amount of guidance/Existence of working examples: The specification provides working examples in Table 1 of the instant Specification and includes different naturally occurring monosaccharides, specific amino acids, specific polyols, propanol, propanediol, amino-propanediol, ethanol, lactobionic acid, sucrose, polyethylene glycol, dextran, heparin, fucoidan and albumin, among several others.

Quantity of Experimentation Necessary: There exists an extensive list of compounds that meet the requirements of the claim limitations being a water miscible organic compound that comprises at least one hydroxyl group, and the compound is bonded to NO. Even looking at one catalog alone, such as Sigma-Aldrich, one can identify hundreds, if not thousands, of compounds meeting this criteria. Thus, synthesizing each of these compounds and testing each of these compounds for their ability to deliver nitric oxide would require one to engage in undue experimentation.

State of the prior art/Predictability or unpredictability of the art: The skilled artisan would view that it is unlikely that one can predict whether all compounds that meet the requirements as claimed could be used to deliver nitric oxide. The specification discloses that proteins and carbohydrates can be used for delivery of nitric oxide. However, one skilled in the art would view that it is unlikely that all compounds meeting the limitations of the claim could be used. For example, ricin, a glycoprotein that has hydroxyl groups and can be dissolved in water, is highly toxic. Therefore, it is unlikely that one would use ricin as a delivery vehicle for treatment due to its toxicity. However, toxicity is relative and can also depend on concentration. Thus, compounds that are toxic at high concentration may not be toxic at low concentration and can be used as a vehicle for nitric oxide delivery when used in low concentration. Furthermore, the instant claims suggest that any water miscible solvent with at least one hydroxyl group can be bonded to NO. However, such compounds have a variety of different structures that could interfere with general known procedures for the introduction of NO onto a hydroxyl group. Moreover, it is possible that compounds that are known to be toxic would be beneficial after being bonded to NO.

It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. *In re Fisher*, 427 F.2d 833, 166 USPQ 18 (CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. In the instant case, the instant claimed invention is highly unpredictable since one skilled in the art cannot fully describe the genus, visualize, or recognize, the identity of the members of

the genus by structure, formula, or chemical name, of the claimed subject matter, as discussed above in *University of California v. Eli Lilly and Co*. Hence, in the absence of fully recognizing the identity of the members of the genus herein, one of ordinary skill in the art would be unable to fully predict possible physiological activities of any compounds having claimed functional properties in the pharmaceutical compositions herein.

Genetech, 108 F.3d at 1366, states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the *Wands* factors as discussed above, e.g., breadth of claims, the amount of guidance provided and the predictability of the art, to practice the claimed invention herein, a person of ordinary skill in the art would have to engage in undue experimentation, with no assurance of success.

Response to Arguments

Applicants' amendment and arguments, filed 13 November 2009, with respect to the rejection of claims 41, 52, 65, 66, 68, 70, 72 and 74 under 35 USC § 112, first paragraph, for lack of scope of enablement, have been fully considered but are not persuasive.

Applicants argue that the claims have been amended to clarify that the compound is bonded to NO and no longer encompass any compound capable of

forming a reversible bond or association with NO. Applicants further argue that the presence of inoperative embodiments within the scope of a claim does not necessarily render a claim non-enabled, citing MPEP § 2164.08(b). Applicants' arguments have been considered but are not persuasive. Firstly, Applicants are requested to note that the enablement rejection is applied only to a scope of the claimed invention and not to the entire invention. Next, while it is acknowledged that the "breadth" of the claims has been narrowed, thereby minimizing the "quantity of experimentation," instant claim 1, in particular, is still drawn to any water miscible organic compound comprising at least one hydroxyl group, wherein the compound is bonded to NO. Ricin was just one example of a glycoprotein provided by the Examiner. However, there are many other compounds that are not immediately known to be toxic that could affect the body differently when bonded to nitric oxide. Or conversely, compounds that are considered to be toxic could have beneficial properties upon modification of its use or dosage. A prime example is botulinum toxin which is a known toxin that causes paralysis of various muscles. However, when used dermatologically, it can be used to treat wrinkles. Thus, it would require undue experimentation to one of ordinary skill in the art to make and test all the water miscible organic compounds that comprise at least one hydroxyl group that are bonded to NO for the delivery of gaseous nitric oxide.

The rejection is still deemed proper and therefore maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Section [0001]

Claims 41, 52, 55, 56, 66 and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by journal publication to Steven Godin *et al.* (PTO-892, Ref. U).

Steven Godin *et al.* disclose a study on the toxicity effect of exposure to propylene glycol dinitrate (PGDN). PGDN dissolved in propylene glycol were administered to male F-344 rats by i.v. (abstract; p. 62, section 2.7). The results of their study showed a dose-response of blood pressure and increased cerebral blood flow to the administered dosage of PGDN (abstract). Steven Godin *et al.* teach that the vasodilating effects of PGDN are likely due to the production of nitric oxide from PGDN (p. 66, section 4, paragraph 1).

Thus, the composition comprising PGDN dissolved in propylene glycol, disclosed by Steven Godin *et al.*, anticipates claims 41, 52, 55, 56, 66 and 68.

Section [0002]

Claims 41, 52, 55, 56, 65, 66 and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,646,181 to Fung *et al.* (hereinafter referred to as the '181 patent; PTO-892, Ref. A).

The Fung '181 patent discloses pharmaceutical compositions in topical or parenteral form containing organic nitrites that are useful in the treatment of impotence. Organic nitrites are NO donors, and the production of NO leads to vasorelaxation, leading to erection (column 2, lines 1-7). Organic nitrites for use in the pharmaceutical composition include any organic nitrite ester, i.e. any ester of nitrous acid and an organic alcohol, provided that the starting alcohol is not toxic and does not interfere with or counteract the vasodilating effect of the nitrite (column 4, lines 48-53). Illustrative examples of organic nitrites are shown in columns 5-8, which includes 1,3-propane dinitrite (third compound from the top in columns 5-6; claims 1, 4, 6 and 7). The Fung '181 patent further discloses a method for the preparation of 1,3-propane dinitrite in Example 3 (column 9, lines 54-59). The disclosed composition is applied locally, either by application of nitrite-containing topical pharmaceutical compositions, e.g., ointments, creams, gels, lotions, liquids, sprays, and the like, or by intracavernosal injection of parenteral nitrite-containing compositions (column 3, lines 21-27). Parenteral vehicles for nitrite-containing compositions include solutions or dispersions of one or a mixture of organic nitrites in a pharmaceutically acceptable parenteral carrier (column 4, lines 34-37). Such carriers may include non-aqueous solvents or diluents, e.g., ethanol, benzyl alcohol or propylene glycol. Lipid emulsion carriers may also be employed (column 4, lines 42-45).

Thus, the composition comprising 1,3-propane dinitrite formulated with a parenteral vehicle, such as lipid emulsion carriers, disclosed in the Fung '181 patent, anticipates claims 41, 52, 55, 56, 65, 66 and 68.

Response to Arguments

Applicants' arguments, filed 13 November 2009, with respect to the rejection of claims 41, 52, 55, 56, 65, 66, 68, 70, 72 and 74 under 35 USC § 102(b), as being anticipated by Mailhes *et al.*, have been fully considered and are persuasive in view of Applicants' amendment to the instant claims. Therefore, the rejection has been withdrawn. In view of Applicants' amendment, a new ground(s) of rejection is applied, necessitated by Applicants' amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Section [0003]

Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over journal publication to Steven Godin *et al.* (PTO-892, Ref. U) as applied to claims 41, 52, 55, 56, 66 and 68, further in view of U.S. Patent No. 5,646,181 to Fung *et al.* (hereinafter referred to as the '181 patent; PTO-892, Ref. A).

The teachings of Steven Godin *et al.* were as disclosed above in section [0001] of the claim rejections under 35 USC § 102.

The teachings of Steven Godin *et al.* differ from that of the instantly claimed invention in that Steven Godin *et al.* do not disclose the formulation of PGDN as a lipid emulsion.

The teachings of the Fung '181 patent were as disclosed above in section [0002] of the claim rejections under 35 USC § 102.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Steven Godin *et al.*, concerning the vasodilating effects of PGDN which are likely due to the production of nitric oxide, with the teachings

of the Fung '181 patent, regarding pharmaceutical compositions in topical or parenteral form containing organic nitrites that are useful in the treatment of impotence. Since the Fung '181 patent teaches that organic nitrites for use in their disclosed pharmaceutical composition include any ester of nitrous acid and an organic alcohol, provided that the starting alcohol is not toxic and does not interfere with or counteract the vasodilating effect of the nitrite, and PGDN is an organic nitrate that Steven Godin *et al.* teach likely functions as a vasodilator by producing nitric oxide, one of ordinary skill in the art would have been motivated to substitute the organic nitrites disclosed in the Fung '181 patent with PGDN disclosed by Steven Godin *et al.*, with the expectation that it too would be useful for the treatment of impotence. Furthermore, since PGDN differs from one 1,3-propane dinitrite by the mere placement of the nitrite ester at the 2- or 3-position of dipropanol, hence, positional isomers, one of ordinary skill in the art would reasonably expect formulations of the compounds, such as with lipid emulsions, to behave similarly. See MPEP § 2144.09.

Thus, the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Section [0004]

Claims 70, 74 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over journal publication to Steven Godin *et al.* (PTO-892, Ref. U) as applied to claims 41, 52, 55, 56, 66 and 68, further in view of journal publication by Lindberg *et al.* (PTO-892, Ref. V).

The teachings of Steven Godin *et al.* were as disclosed above in section [0001] of the claim rejections under 35 USC § 102.

The teachings of Steven Godin *et al.* differ from that of the instantly claimed invention in that Steven Godin *et al.* do not disclose that the composition comprising PGDN is substantially free of oxygen.

Lindberg *et al.* teach that inhaled nitric oxide is a therapeutic tool in the management of severe respiratory diseases associated with hypoxaemia and pulmonary hypertension. Nitric oxide reacts with water to form nitric and nitrous acids or it may be absorbed by antioxidants in the lungs, producing new free radicals that participate in and delay the occurrence of lung injuries. However, the problem during inhalation of nitric oxide is its reactivity with oxygen to form the highly toxic nitrogen dioxide (p. 213, column 1, first paragraph).

The teachings of the Fung '181 patent were as disclosed above in section [0002] of the claim rejections under 35 USC § 102.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the teachings of Steven Godin *et al.*, concerning the vasodilating effects of PGDN which are likely due to the production of nitric oxide, with the teachings of Lindberg *et al.*, regarding the conversion of nitric oxide to highly toxic nitrogen dioxide in the presence of oxygen. Since Steven Godin *et al.* teach that PGDN produces nitric oxide, it would have been *prima facie* obvious to one of ordinary skill in the art that PGDN is useful as a nitric oxide donor. Therefore, as Lindberg *et al.* teach that nitric oxide is a therapeutic tool in the management of severe respiratory

diseases associated with hypoxaemia and pulmonary hypertension, one of ordinary skill in the art would have been motivated to use PGDN as a source of nitric oxide, and to further ensure that the composition comprising PGDN is substantially free of oxygen so as to minimize conversion of nitric oxide, produced from the nitrite esters, into nitrogen dioxide, which would be harmful if administered to a subject.

Thus, the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Section [0005]

Claims 70, 74 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,646,181 to Fung *et al.* (hereinafter referred to as the '181 patent; PTO-892, Ref. A) as applied to claims 41, 52, 55, 56, 65, 66 and 68, further in view of journal publication by Lindberg *et al.* (PTO-892, Ref. V).

The teachings of the Fung '181 patent were as disclosed above in section [0002] of the claim rejections under 35 USC § 102.

The teachings of the Fung '181 patent differ from that of the instantly claimed invention in that the Fung '181 patent do not disclose that the formulations comprising the organic nitrite ester(s) is substantially free of oxygen.

The teachings of Lindberg *et al.* were as disclosed above in section [0004] of the claim rejections under 35 USC § 103.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the teachings of the Fung '181 patent, concerning

pharmaceutical compositions in topical or parenteral form containing organic nitrite esters that are useful in the treatment of impotence, with the teachings of Lindberg *et al.*, regarding the conversion of nitric oxide to highly toxic nitrogen dioxide in the presence of oxygen. Since the Fung '181 patent teaches that the organic nitrite esters serve as nitric oxide donors and Lindberg *et al.* teach that in the presence of oxygen, nitric oxide is converted to highly toxic nitrogen dioxide, one of ordinary skill in the art would have been motivated to ensure that the composition comprising the organic nitrite ester is substantially free of oxygen so as to minimize conversion of nitric oxide, produced from the nitrite esters, into nitrogen dioxide, which would be harmful if administered to a subject.

Thus, the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 41, 52, 55, 56, 66, 68, 70, 72 and 74 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29, 32-36 and 38-49 of copending U.S. application no. 12/282,878.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application is drawn to a method for the production of an organic nitrate from a compound which is a mono/polyhydric alcohol or an aldehyde- or ketone-derivative thereof, comprising the steps of de-aeration of said compound or a solution of said compound until substantially free from oxygen, and purging said de-aerated solution with gaseous nitric oxide forming an organic nitrite in said solution. The mono/polyhydric alcohol is a dihydric alcohol that is chosen among 1,2-propanediol and 1,3-propanediol.

The claims of the instant application are drawn to a composition for the delivery of gaseous nitric oxide, said composition comprising a compound bonded to NO, wherein said compound is a water miscible organic compound comprising at least one hydroxyl group. The compound is a dihydric alcohol. The dihydric alcohol is 1,2-propanediol or 1,3-propanediol. The composition contains substantially no oxygen.

Thus, the instant claims 41, 52, 55, 56, 66, 68, 70, 72 and 74 are seen to be anticipated by claims 1-29, 32-36 and 38-49 of copending U.S. application no. 12/282,878.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

In view of the rejections to the pending claims set forth above, no claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCARLETT GOON whose telephone number is 571-270-5241. The examiner can normally be reached on Mon - Thu 7:00 am - 4 pm and every other Fri 7:00 am - 12 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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